Answer 1:

Bibliographic Information

In vitro and in vivo killing effects of epirubicin-carboxymethyl magnetic nanoparticles with external magnetic fields on bladder cancer. Cao, Zhengguo; Zhu, Yuping; Qi, Lin; Zhou, Siwei; Liu, Jihong; Ye, Zhangqun; Jia, Tao. Department of Urology, Anhui Provincial Hospital, Hefei, Peop. Rep. China. Zhonghua Shiyan Waike Zazhi (2006), 23(6), 747-749. Publisher: Hubei Sheng Yixuehui, Bianji Chubanbu, CODEN: ZSWZAA ISSN: 1001-9030. Journal written in Chinese. CAN 148:556171 AN 2007:1185818 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Effects of epirubicin-carboxymethyl dextran iron oxide magnetic nanoparticles (EPI-CDMN) combined with external magnetic fields on human bladder cancer BIU-87 cell proliferation and apoptosis in vitro and s.c. xenograft bladder cancer growth of nude mice in vivo were investigated. EPI-CDMN were prepd. by chem. copptn. and periodate oxidn.-borohydride redn. procedures, and their physicochem. properties were detected. The nude model of s.c. xenograft bladder cancer was established. The groups of blank control, magnetic fields, EPI and EPI-CDMN were all used as controls. The effects of EPI-CDMN combined with external pulsed electromagnetic fields on human bladder cancer BIU-87 cell proliferation and s.c. xenograft bladder cancer growth of nude mice were obsd. with Me thiazolyl tetrazolium technique, double-labeled flow cytometry technique and TUNEL method, resp. The diam. and satn. magnetization of EPI-CDMN was about 8-10 nm and 0.22 emu/g resp. EPI-CDMN combined with external magnetic fields could significantly inhibit the proliferation of BIU-87 cells and induce cell apoptosis. The growth inhibiting rate and apoptosis rate were (21.82±3.18)% and (16.8±3.4)%, and the tumor growth inhibiting rate (51.69%) and the tissue cell apoptosis index (60.45±6.93)% were all resp. significantly higher than those in the other groups ($P<0.05$). The vol. (1.57±0.42) cm3 and wt. (2.00±0.21) g of s.c. tumor were significantly less than those in the other groups. External electromagnetic fields could significantly enhance the killing effects of EPI-CDMN on bladder tumor in vitro and vivo, which provided an exptl. basis for the magnetic targeting therapy of bladder tumor.

Answer 2:

Bibliographic Information

Potentiation of the antitumoral activity of gemcitabine and paclitaxel in combination on human breast cancer cells. Zupi, Gabriella; Scarsella, Marco; D'Angelo, Carmen; Biroccio, Annamaria; Paoletti, Giancarlo; Lopez, Massimo; Leonetti, Carlo. Experimental Chemotherapy Laboratory, Regina Elena Cancer Institute, Rome, Italy. Cancer Biology & Therapy (2005), 4(8), 866-871. Publisher: Landes Bioscience, CODEN: CBTAAO ISSN: 1538-4047. Journal written in English. CAN 145:347983 AN 2006:480435 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

The purpose of this study was to evaluate the antitumoral activity of different gemcitabine-based combination on an exptl. model of human breast cancer, in order to identify the most effective treatment and to provide a rationale for clin. investigations. To this end, CG5 breast cancer cells were treated in vitro with gemcitabine followed by epirubicin, doxorubicin, docetaxel or paclitaxel. The reversed sequence was also investigated. Results, analyzed by multiple drug effect/combination index (CI) isobologram, demonstrated that the combination gemcitabine/paclitaxel was the most active showing synergism with a CI of about 0.5 in the two sequences employed. Moreover, the synergistic interaction of gemcitabine and paclitaxel was correlated to a block of the cells in the G0/G1 compartment of cell cycle and to an increase of apoptotic cells compared to each drug. Based on these evidences, the antitumoral efficacy of gemcitabine/paclitaxel combination has been studied in vivo. Mice bearing CG5 human breast xenografts treated with paclitaxel and gemcitabine in combination showed a significant higher inhibition of tumor growth (.apprx.70%) compared to that with either agent alone (25%). In conclusion, this study suggests that paclitaxel is the most promising agent for combination protocols with gemcitabine and supports the use of gemcitabine/paclitaxel combination in the clin. management of advanced breast cancer.

Answer 3:

Bibliographic Information

Variable sensitivity of endothelial cells to epirubicin in xenografts of human nasopharyngeal carcinoma CNE-2 cells. Zhang, Xiao-Shi; Zhu, Xiao-Feng; Gao, Jin-Song; Ye, Yan-Li; Feng, Qi-Sheng; Liu, Zong-Chao; Zeng, Yi-Xin. Cancer Center, Sun Yat-Sen University, Canton, Peop. Rep. China. Cancer Biology & Therapy (2002), 1(3), 263-265. Publisher: Landes Bioscience, CODEN: CBTAAO ISSN: 1538-4047. Journal written in English. CAN 139:173302 AN 2003:52120 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Conventional anticancer drugs show non-specific vascular toxicity, and using anticancer drugs as angiogenesis inhibitors was suggested. However, our previous study suggested that vascular endothelial growth factor (VEGF) protected endothelial cells against chemotherapy drugs in vitro. To further test whether the vascular toxicity of anticancer drugs is active in vivo, epirubicin was i.p. injected into nude mice with s.c. xenografts of human nasopharyngeal carcinoma CNE-2 once (one-day schedule) or once a day from day 1 to day 7 (seven-day schedule). At 48 h after the single injection or the 7th injection, tumors were removed for detection of apoptosis of vascular endothelial cells vessels and the content of VEGF in tumor tissues. The results showed that epirubicin damaged tumor microvessels when the drug was given as a single dose, whereas epirubicin lost its vascular toxicity when the drug was given continuously for seven days, accompanied by higher levels of VEGF in tumor tissues. These results suggest the sensitivity of endothelial cells lining tumor vessels is variable during chemotherapy, and the protective effect of VEGF on endothelial cells might be related to the schedule of administration.

Answer 4:

Bibliographic Information

Synergistic effects induced by cycloprodigiosin hydrochloride and Epirubicin on human breast cancer cells. Yamamoto, Daigo; Tanaka, Kanji; Nakai, Koji; Baden, Tetsuya; Inoue, Kentaro; Yamamoto, Chizuko; Takemoto, Hirota; Kamato, Keiko; Hirata, Hajime; Morikawa, Shigehiro; Inubushi, Toshiro; Hioki, Koshiro. Department of Surgery II, Kansai Medical University, Osaka, Japan. Breast Cancer Research and Treatment (2002), 72(1), 1-10. Publisher: Kluwer Academic Publishers, CODEN: BCTRD6 ISSN: 0167-6806. Journal written in English. CAN 137:362620 AN 2002:351163 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

The effects of cPrG·HCl and Epirubicin on the suppression of cell growth were examd. on the human breast cancer cell line (MDA-MB-231). Either cPrG·HCl or Epirubicin alone showed a tumor growth inhibition in a time- and dose-dependent manner; however, the combinatory use of cPrG·HCl together with Epirubicin resulted in prominent synergistic effects on the breast cancer cells. In the in vitro studies, the combinatory use of these 2 drugs accelerated apoptotic cell death as revealed by morphol. changes as well as by the appearance of subG1 population by flow cytometry. In addn., confocal microscopy revealed that the accumulation of Epirubicin in the nucleus increased apparently when cPrG·HCl were present. In the in vivo assay, nude mice bearing xenografted tumor cells received 4 wk of i.p. administration of cPrG·HCl and Epirubicin. After 12 days, the combinatory treatment significantly suppressed the tumor growth compared to the controls. The TUNEL staining revealed that tumor cells in cPrG·HCl plus Epirubicin-treated mice exhibited a higher apoptotic rate. In addn., 31P-NMR studies on the xenografted tumor revealed that cPrG·HCl lowered tumor pHi (below pH 6.9), while it did not affected muscle pHi. No pathol. changes were obsd. in any intrinsic organs and the serum alanine aminotransferase levels remained within normal limits among the groups. These results suggest that the combinatory use of cPrG·HCl and Epirubicin may be useful for breast cancer therapy.

Answer 5:

Bibliographic Information

Predictability of clinical response to anticancer agents in human cancer xenografts. Tsukamoto, Fumine. Med. Sch., Osaka Univ., Suita, Japan. Osaka Daigaku Igaku Zasshi (1994), 46(4), 251-61. CODEN: ODIZAK ISSN: 0369-710X. Journal written in Japanese. CAN 121:124753 AN 1994:524753 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Nude mouse transplanted human tumors retained original sensitivity to antitumor drugs, and was useful in secondary screening for the sensitivity to tumor chemotherapy. Fresh tumor tissues were transplanted and maintained in nude mice in 77 cases (tried: 247 cases), and sensitivity of the transplanted tumors to chemotherapy was compared between human therapy and in nude mice using regimen used clin. in 17 cases with 21 expts. (stomach, breast, colon, pancreas, esophagus. melanoma). Tested drugs were adriamycin, cisplatin, cyclophosphamide, cytarabine, dacarbazine, doxifluoridine, epirubicin, 5-fluorouracil, M-83 (a mitomycin C deriv.), mitomycin C, tegafur, and UFT. Chemotherapy in nude mice was effective in 6 expts., which coincided with clin. results in 5 cases. The ineffective 15 cases in nude mice coincided with the clin. results in all cases.

Answer 6:

Bibliographic Information

The use of athymic mice in the screening of new anthracycline derivatives. Giuliani, Fernando C.; Kaplan, Nathan O. Farmitalia Carlo Erba Res. Cent., Milan, Italy. Editor(s): Sordat, Bernard. Immune-Defic. Anim., Int. Workshop Immune-Defic. Anim. Exp. Res., 4th (1984), Meeting Date 1982, 374-8. Publisher: Karger, Basel, Switz CODEN: 51ONAB Conference written in English. CAN 101:32720 AN 1984:432720 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

The antineoplastic action of several anthracyclines (doxorubicin [23214-92-8], 4'-epidoxorubicin [56420-45-2], 4-demethoxydoxorubicin [64314-52-9], 4-demethoxydaunorubicin [58957-92-9], and 4-demethoxy-4'-epidoxorubicin [62348-68-9]) against human tumors transplanted in nude athymic mice is discussed; for 4'-epidoxorubicin, the results are compared with data obtained from preliminary Phase I clin. trials. No conclusive assertion can be made about the clin. predictivity of new anthracyclines based on the human tumor xenograft-nude mouse screening model; a good correlation was, however, obtained between the clin. and animal studies for doxorubicin.